

Figure 1

Colorspace	Bytes/frm	24 fps bytes/sec.	30 fps bytes/sec.
YCbCr8	4147200	99532800	124416000
YCbCr10	5184000	124416000	155520000
RGB8	6220800	149299200	186624000
RGB10	8294400	199065600	248832000
RGB12	12441600	298598400	373248000

Fig 2A

Pixels 1-2			
Byte 1	Byte 2	Byte 3	Byte 4
uuuuuuuu	yyyyyyyy	vvvvvvvv	yyyyyyyy
left			right

Fig 2B

Pixel 1				
Byte 1	Byte 2	Byte 3	Byte 4	Byte 5
uuuuuuuu	uuuuuuuu	yyyyvvvv	vvvvvvvv	yyyyyyyy
left				right

Fig 2C

RGB8		
Pixel		
Byte 1	Byte 2	Byte 3
rrrrrrrr	gggggggg	bbbbbbbb

Fig 2D

RGB10			
Pixel			
Byte 1	Byte 2	Byte 3	Byte 4
rrrrrrrr	rrgggggg	ggggbbbb	bbbbbbba

Fig 2E

RGB12					
Pixel					
Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6
rrrrrrrr	rrrrrrrr	gggggggg	gggggggg	bbbbbbbb	bbbbbbbb

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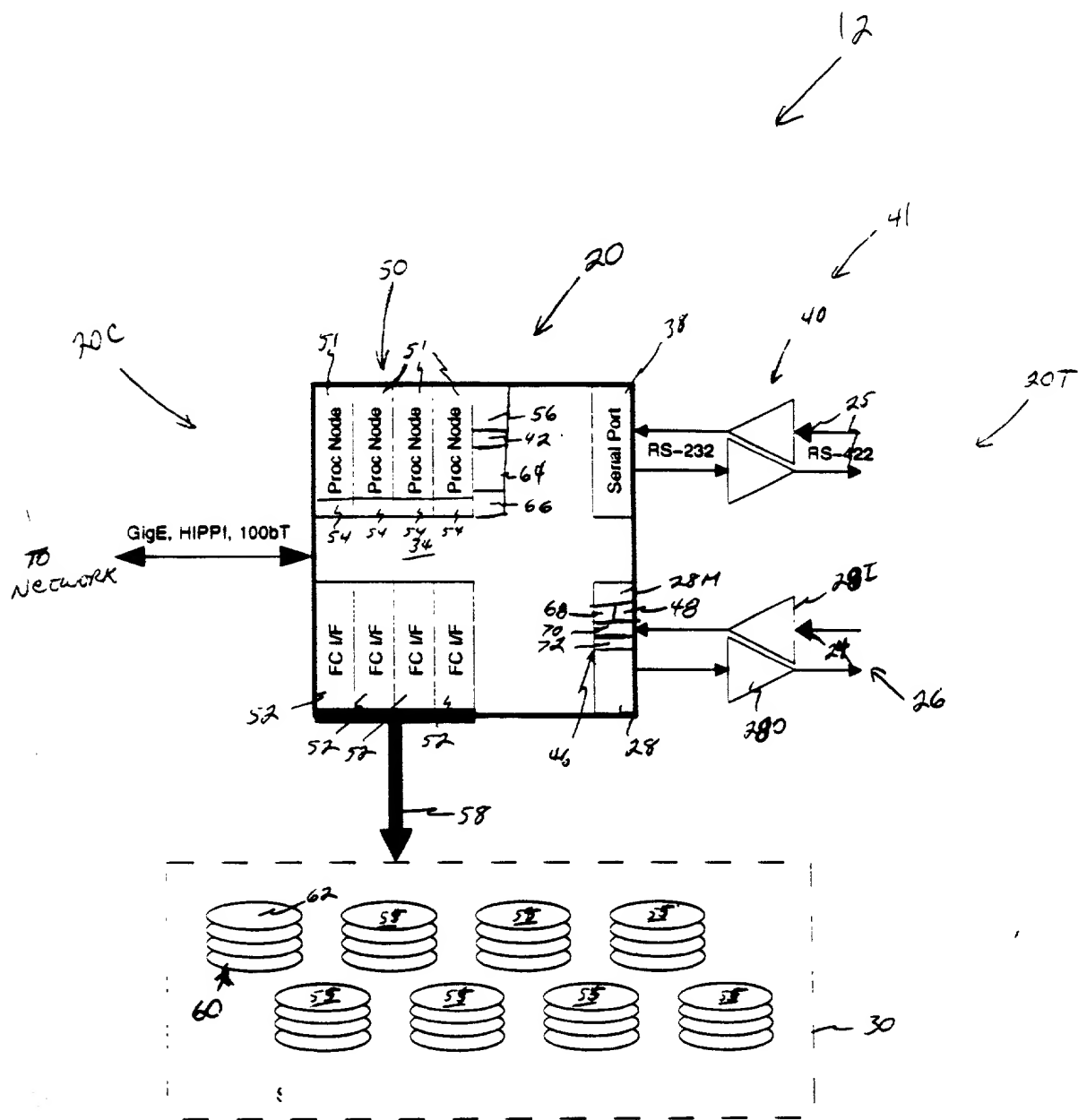


Figure 4

The diagram illustrates a video processing system with two parallel paths for encoding and decoding. At the top, a 'Parallel HD Video' input is split into two channels. The left channel (labeled 24I) is the encoding path, and the right channel (labeled 26) is the decoding path. Both paths start with 'Input Buffers' (80 and 48). The encoding path (left) consists of: 'YBCR->RGB Matrix' (82, ITU Rec 709, 601 SMPTE 274M), '13 bit Filter' (84), 'LUT' (86), 'Packer' (88), and 'DMA' (90), which connects to a 'High-speed bus To memory buffers'. The decoding path (right) consists of: 'DMA' (90), 'Packer' (88), 'LUT' (86), '13 bit Filter' (84), 'RGB->YBCR Matrix' (82, ITU Rec 709, 601 SMPTE 274M), and 'Input Buffers' (48). In the center, 'YBCR' and 'RGB' signals are shown with waveforms and transfer curves. The output of the encoding path is 'RGB8, RGB10, RGB12' (68), and the input to the decoding path is 'RGB8, RGB10, RGB12' (70). A 'High-speed bus From memory buffers' is at the bottom right.

Figure 5

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Fig 6

CPU Node	
CPU Node	
CPU Node	
CPU Node	
Fiber Channel I/F Card 1/2	Empty
Fiber Channel I/F Card 1/2	XTHD HDTV Video Card 1/2
Fiber Channel I/F Card 1/2	Empty
Fiber Channel I/F Card 1/2	Gig-E Network Card
Empty	Empty

CPU SLOTS

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